Designing for Others, and the Trap of HCI Methods & Practices

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Abstract
HCI research often (cl)aims to do good for others, but does it actually? We discuss two cases that exemplify how designing for others can in fact be harmful: the Games Against Health paper by Linehan et al. and the Uninvited Guests video by Superflux. We feel that user-centered methods are often considered as a safe-conduct, simply because the end-user is involved one cannot do wrong. We plead for explicit transparency about the origin of research projects and technology designs to put a critical reflection about underlying values of the work into practice.

Author Keywords
Design for others; Ethics; HCI; Origin of work; Reflective design; User-centered design.

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous; K.7.4. Professional Ethics.

Introduction
Recently, Ind.ie launched their *Ethical Design Manifesto* [2] as a response to the challenges for design practice in today's technological world. Under the tagline "sell products, not people", Ind.ie wants to encourage organizations to respect human rights, human efforts, and human experiences as core values when designing

digital products or services. Ind.ie hints at design – not technology – as being responsible for malpractices such as threatening users' privacy for the benefit of companies [9]. They argue that technology implements philosophies and multiplies underlying values by referring to Melvin Kranzberg's first law of technology that emphasizes the neutral character of technology [12]. According to Kranzberg, technology does not have a positive nor a negative character by itself, but the effect of technology on society can differ depending on the context and circumstances in which the technology is introduced. Depending on underlying values and principles, which get embodied through design, the impact of technology on people can be altered. Therefore, design is a powerful tool and should not be applied blindly.

The Ethical Design Manifesto emphasizes the responsibility of designers by distinguishing design, that challenges, from decoration, that aims for acceptance. If designers are merely making things look beautiful and shiny in order to sell whatever lies beneath, they are decorating. However, designers can also take an active role, making people think by providing a different point of view. Second, Ind.ie deems diversity in design teams as a competitive advantage. As Ind.ie argues, diverse teams that design for themselves are able to address the needs of diverse audiences, as opposed to teams that design for 'the other'. Designing for 'the other' easily becomes imperialistic. If teams design for themselves, they truly understand the context in which the technology would be used. To conclude, the manifesto states that ethical design is the output of ethical organizations that embrace ethics as a core principle and take a holistic approach towards ethics.

Reading the Ethical Design Manifesto made us reflect on methods and practices that are used within the HCI community. How do the ideas of ethical design translate to our field? In the following paragraphs, we give an overview of related work from an HCI perspective.

In the early nineties, Philip Agre introduced *Critical Technical Practice* (CTP) [1], encouraging designers to use self-reflection as a way to engage critically with their own position and values when designing technology, and with how these influence their design practice. This critical approach opens up design spaces that otherwise might remain hidden behind obvious assumptions.

We see a similar attempt in *critical or speculative design* as described by Dunne and Raby [4]. Critical design aims to raise questions rather than to solve (commercial) problems, and is thus closely related to the first point of the ethical design manifesto: design should challenge rather than decorate. Here, design is used to speculate or present possible futures to people in order to provoke critical reflection on what would be preferable. Critical design deliberately stays away from judging what is good or bad, and leaves that up to the people or the audience (an issue that is also addressed by *value-sensitive design* [8]).

Phoebe Sengers et al. describe *reflective design* that considers critical reflection as something that is essential for socially responsible technology design, as values that underlie this design propagate to our daily lives [18]. Reflective design embraces several critical approaches such as critical technical practice, critical design, and value-centered design in order to reflect on

underlying values. Sengers et al. argue: "*reflection on unconscious values embedded in computing and the practices that it supports can and should be a core principle of technology design.*"

More recently, the need for a continuous critical reflection on unconscious values of technology design was raised in *transnational HCI* [21] and *postcolonial computing* [10]. Here, the euro-centered nature of HCI is challenged. As the HCI community has a long history in the west, the rest of the world is easily considered as lagging behind and in need for help from the west. How do the underlying values affect HCI beyond the west or in HCI for Development (HCI4D)?

The second point of the ethical design manifesto highlights the competitive advantage of diversity within design teams. In HCI, *design for user empowerment,* as proposed by Ladner, pleads for diverse design teams, including people with disabilities [13]. For designers and developers who are typically not disabled, it is difficult to get a full understanding of users with disabilities through traditional user-centered or even participatory design, as there are still gaps in the user involvement. The author suggests design for user empowerment as the strongest form of human-centered design, where people with disabilities are part of the design team, or ideally lead the team.

Considering this rich history of literature on ethics and politics of design, we acknowledge that our message is not unique. However, these discussions on ethics in the domain of HCI seem to stay on a theoretical level, and therefore reach a niche audience rather than the broad HCI community.

As Foster et al. mention in [6], it seems difficult to translate the proposed critical approaches to practice, mainly because researchers are on their own bringing the theory to practice.

We ourselves see evidence for the fact that an ethical reflex has not reached 'the community' in papers and at conferences, where questionable practices are being presented. Some examples include assistive tools that resemble to surveillance, designs that dumb down target audiences, or data gathering methods used while target audiences probably did not fully understand what it means to unlock data to the researchers.

With this paper, we aim to provoke and maintain the ongoing discussions on ethics in the HCI community. Hereby, we respond to Benford et al. who appeal to continue this debate [3], and we especially address their call for a "*practical way forward*". We raise questions on what 'designing for others' means, and for whom exactly we are designing if we do so. We discuss the recent *Games Against Health* paper and *Uninvited Guests* video, as we find these pointing to the crux of the matter. We plead for transparency about the origins of our work, as a practical step to address ethical challenges with HCI methods such as user-centered design. This message seems especially relevant for the alt.chi track that encourages discussion within the HCI community, at a conference with the tagline *CHI4Good*.

Designing for Others

The Ind.ie manifesto deems designing for others inferior to diverse teams designing for themselves. This reminded us of the online discussion between 37signals (now Basecamp) and Donald Norman in 2008.

In Wired, CTO and co-founder of 37signals David Heinemeier Hansson stated "I'm not designing software for other people, I'm designing it for me." [17]. Donald Norman, father and advocate of user-centered design, replied in a blog post titled "Why is 37signals so arrogant?". Norman describes the attitude of not designing for others arrogant, selfish, will lead to failure, deadly, and deserves to fail [15]. In his blog post, he compares designing for yourself as a nice hobby, but companies need to understand their customers, and design for them. Jason Fried, CEO and co-founder of 37signals responded with the post "Why we disagree with Don Norman" [7]. In the post, Fried explains that designing for themselves allows them to work on things they know, assess quality directly instead of by proxy, fall in love and feel passionate about their own product. Fried ends his post with the question whether having a different point of view, or not respecting a different point of view, is arrogant.

Regardless of who is right or might be arrogant, to us, this discussion does question the self-evidence of user-centered design (something Norman appealed for in 2005 [16]). A similar critique on 'designing for others' is formed in transnational HCI, postcolonial computing, and design for user empowerment, as discussed earlier. These approaches suggest diversity within design teams to address the potential danger of 'designing for others'.

In the recent *Games Against Health* paper and *Uninvited Guests* video, we also read a critique on designing for others. In the next sections, we discuss both cases and build further on the idea that designing for others might have (un)intended downsides.

Games Against Health

At CHI 2015's alt.chi track, the paper Games Against Health: A Player-Centered Design Philosophy was discussed and presented [14]. In their paper, Linehan et al. critique and respond to what they call "cultural imperialism of Games for Health". As they argue, the games for health movement can be considered as paternalistic research practice that conflicts with what players truly want.

The authors state that by designing for health, the HCI community expresses the will to improve or repair people, and thus regard society as broken. But do people want to be repaired? If they do, they consider themselves as broken too. Gamers will probably not regard themselves as broken entities because they like to sit and game. And if the HCI community looks at people in this way and acts 'for the people's own good', is the HCI community then not merely celebrating themselves, the elite? 'Good' can mean different things for different people, which might not align with a societal point of view. To conclude, the paper then claims to meet gamers' real needs and wishes (e.g. sitting still and game for hours) by suggesting game designs that are harmful for health. Based on dark game design patterns, the authors describe solutions to sit still for hours and snacking.

The Games Against Health paper illustrates how designing for others and for other people's own good can result in questionable or unacceptable practices from an ethical point of view such as imposing that people should exercise more and sit less even though the target audience of gamers clearly indicates to prefer sitting and gaming.

Alt.chi papers go through an open review process, and some reviews are added to the papers as commentary. As the commentaries of the Games Against Health paper indicate, even the authors of the paper are not free of patronizing biases or prejudices about the target audience because they view gamers through the stereotype of anti-social sedentary people, and this also affects their work.

The commentaries on the paper also describe how the paper is an amusing read, and we enjoyed reading the paper ourselves too. However, we feel that the satirical tone of the paper, including the proposed designs for ultra-long gaming activities, might dilute or even bury an important message: designing for others can in fact be harmful. So next to re-emphasizing the authors' message, we want to highlight and re-enforce it by building further on the discussion that followed this paper.

In times where behavior change and persuasive design are hot topics, the HCI community aims for high societal impact by promoting and encouraging healthy lifestyles. We question whether suggested solutions within the HCI community that focus on 'the others' (such as self-management tools for patients and elderly) will have the promised effect in the long-term. Will such solutions really decrease the work load on physicians and increase the efficiency of hospitals? When designing such tools under the flag of patient empowerment, what are the underlying drivers and values? Who came up with the idea? And who was promised what exactly?

Uninvited Guests.

A second case we would like to discuss is the Uninvited Guest video by Superflux [19]. In the video, they introduce Thomas, an elderly man living alone after his wife died. His children gave him smart devices to assist him. As he was happy to live in an organized mess, he now has to live with these tools that impose a new set of rules. The video depicts frictions between the elderly man and his new tools. With the video, Superflux asks "How will we live with these 'uninvited guests'?"

Uninvited Guests starts with Thomas watching television with a sad look. We get introduced to some bright yellow tools: a fork (see figure 1), a pillbox, a cane, and a bed. From a collection of greeting cards in the home, we learn that Thomas has received these assistive tools as gifts from his children.

Figure 1 Screenshot of Thomas getting alerts from his smart fork in the Uninvited Guests video [19] © Superflux

After we see him eating breakfast with beans and bacon, the fork points at the number of calories, the amounts of salt, and gives advice through his smartphone. Then we see the smart cane encouraging Thomas to walk more when he watches television with the message "keep going". After a few attempts, he merely manages to increase the step count with a few steps. In the second part of the movie, we see Thomas rejecting the smart devices. He returns to his old fork and puts the smart cane under the sofa. His children send him text messages to ask if everything is ok, whether he is still using the smart devices they gave him, and if it wouldn't be wise to go to bed as it is getting late.

Then, in the third and final part of the movie, we see two plates on Thomas' dinner table: fish and chips for eating on one plate, and healthy vegetables to swirl the smart fork on the other plate. Immediately, Thomas receives compliments from the system and achieves a heart badge on his smartphone. We see him giving his smart cane to a youngster. As the step counter reaches the daily goal, the youngster returns the cane and gets a beer as reward. Soon after, Thomas receives a star badge to celebrate his efforts of the day. And right before bedtime, we see him loading a pile of books on his smart bed with a moon badge as result. The pile of books includes 'Between a rock and a hard place', 'Why should anyone be led by you?', and 'Worldchanging: a user's guide for the 21st century'. The system wishes Thomas "Good night", but instead of sleeping we see Thomas watching television as he did before, and hear a documentary about astronauts that reminds of Apollo 13 where a solution had to be improvised in space to overcome a critical situation. We hear "It was a success, the astronauts were elated" as the video ends.

Although it was difficult, Thomas seems to have found a way to live with his uninvited guests by fooling the smart devices, and, by proxy, his children who might think that Thomas is now more physically active, eating healthier, and finally has a good night's rest with the help of his new assistive tools. Depending on the point of view, maybe Thomas is fooling himself? Anyhow, the question remains who would have benefitted most from this situation where these assistive smart devices were given to Thomas.

After the launch of the video, people on Twitter described the video as a story, an exploration, a critique, and a cautionary tale [20]. The comments mainly focus on the elderly man Thomas, and the tension between him and the technology. In the comments the technology is referred to as health tech, Internet of Things (IoT), and smart homes and is considered as an interloper or a nanny that is intrusive, paternalistic, and inhumane. The tension is described as a downside, friction, battle, and subversion, and in these tweets people praise the tactics of Thomas to deceive or trick the technology and rebel against the imposed rules and order. In these comments, technology is blamed to be hostile while the design or designers are not mentioned.

Throughout the video, we see and hear over forty notifications and three text messages of Thomas' worried children who ask their father if everything is ok. Is this system really helping him? Or is it bringing comfort to the children? What problem is solved when creating assistive tools for the elderly, "for their own good". Would we want to use these tools ourselves, at age? It is easy to find comfort in the idea of doing good, but are we really doing so?

When thinking about assistive tools as presented within the HCI community, do we believe these proposed solutions will be adopted in long-term? In honesty, how does the HCI community lives up to the promises that it makes made about societal impact, e.g. enabling elderly to live longer at home, making more efficient use of physician's time and thus allowing budget cuts, improving adherence to prescribed medication, or even increasing life expectancy?

The Trap of HCI Methods

As user-centered, human-centered, and user experience design get widely adopted in industry nowadays, the HCI community makes appealing project partners to work on innovative technology solutions, and sell them. Marketing has discovered our field as well, which has been inspirational in both directions (e.g. the (ab)use of personas or the use of customer journey maps). We see a paradox where the success of our approach faces us with tough choices, e.g. about which projects to collaborate in. As Jan Chipchase recently illustrated in a tweetstorm on the debate of Facebook's free basics in India, industry discovered the power of user-centered design to sell products rather than to design: "the success of "*design thinking" & the growth of user centered design masks an awkward truth. - It's not enough to go in field, to visit the street corner, slum, village, if the intent is misaligned. - If the sole aim is to use "user" stories for a predefined corporate narrative then, it will do more harm than good*." [11]. As technology and design both have huge potential, responsibility towards end-users comes with it. Especially research institutes, who run on public funds, should take this responsibility very seriously.

We argue that the nature of our domain makes it easy to forget about this responsibility towards end-users, as we are involving people by definition. HCI research actively involves end-users through user-centered, human-centered, co-design and co-creation approaches, and thus seems to put the end-users' interest first, but is this truly the case? Has the self-evident use of user-centered methods not become a safe-conduct that opens the door for malpractices, where end-users are used for different purposes, whether or not intended by the researchers? If we think about the games for health examples in the Games Against Health paper, when do HCI methods and practices become tactics to sugarcoat and sell whatever lies beneath?

With the uptake of emerging trends like gamification and nudging, both in industry and academic work, the line does get blurry because techniques are used to change the behavior of people in other ways than it would naturally do, e.g. to unlearn bad habits. But do these techniques have the promised effect? In the late nineties, BJ Fogg already warned about the ethical implications when designing persuasive technology [5]. However, today we see many examples of these technologies that contradict with end-users' values for the benefit of other stakeholders. If we think about Thomas and his uninvited guests, the badges seem to frustrate Thomas rather than to help him. At the same time, his children seem to be assisted more by the tools, as they can now keep an eye on their father from a distance.

If the HCI community wants to do good, if the community aims for improvement (e.g. improving medication adherence) and hunt for efficiency (e.g.

enabling physicians to treat more patients in less time), who gets to decide what is better? Who's problem is the HCI community solving, the end-user's or of other stakeholders such as companies or governments? In the next section we reflect on practices in HCI research and list some challenges and consequences of treating ethics as basis for our work.

Ethical Considerations for HCI Research

Work in academia starts with funding, and industry partners are often involved in applied research, e.g. when research is funded by government after which industry partners bring the research outcomes to market to valorize them. These companies do have an agenda, and this might (but does not need to) interfere with a research agenda or end-users' interests. We think that the potential interference between business and research at least needs to be acknowledged.

Together with funding come expectations, e.g. we get funded to find solutions that improve a current situation or increase efficiency (e.g. in hospital practices). In project proposals, we play a game where we promise to deploy methods to alter behavior in return for money. In such exercises we often design for others, in commission of project partners, with the risk of imposing philosophies or values that do not benefit or even harm the end-users. Again, we think that we should acknowledge this. Only then can we, HCI researchers, challenge these values and intentions of commissioning parties when we tempt them and ourselves into enriching collaborations.

When explaining our methodologies to ethical review boards, we may get negative reviews. An ethical review board might feel as a brake on our progress, so we are finding ways to formulate our methodology in order to get positive feedback. To what extent do these ethical reviews become a 'hall pass' that we use to permit ourselves for doing the things we would like to do, or commissioning parties would like us to do. We believe that transparency about potential interferences between different agendas and the values that provide the basis for the work.

In HCI research, we involve the end-users. But how do we recruit? When do we inform people, and when do we convince them? We have knowledge on what makes or breaks communication, so it is tempting to use that knowledge to our own advantage. How can we honestly inform people about our intentions, e.g. when we try to impose societal philosophies or corporate values which might not align with participants' personal interests?

And when we have the results of our studies, we ought to share it. There are multiple ways to frame results, but how independent are we from our commissioning parties in this respect? How transparent are we about the origin of our work? For who's good are we really working?

A plead for transparency

We appeal for a critical point of view towards methods and practices within the HCI community. We as researchers like to believe we have power, and technology design indeed has this potential. However, this believed power also comes with responsibilities. We believe that a critical mindset will benefit our work in order to avoid becoming a sauce that sugarcoats, decorates, and sells, for better or worse.

As there are always underlying values, and it is impossible to be politically neutral, we would like to install a critical reflection by default by articulating underlying drivers and values of our work. Where do ideas, projects, studies, or designs come from? Who came up with the idea? Based on what information or values? By being transparent about the origin of our work, readers are able to trace back the history of design decisions, enabling both authors and readers to challenge it. Where Critical Technical Practice or Reflective Design called for the articulation of values as part of the design process, we would like to see this transparency explicitly treated and communicated, independent of the approach, so also for 'non-reflective design' work within HCI. We believe that the ethical challenges in technology design could be tackled by adopting the ideas of reflective design, also in 'positivist design'. We see explicit transparency as a way to put this approach to practice.

It will not be easy to be transparent about underlying values. Project partners will have hidden agendas, and might put pressure to deliver or to save costs/time. Also, our attempts to be transparent will eventually be our own interpretation of events as well. But today, there is no transparency at all on this matter, so it is impossible to be critical about it when reading papers. Whereas being transparent on the origins of our work will not solve all ethical challenges in the domain of HCI, we do believe it would be a practical step forward.

To conclude, we appeal to venues to add a dedicated (and maybe required?) section to their templates, in which authors must clarify the origin of ideas, projects, and designs. Next to implications for design, we would like to see a section on critical reflections in CHI papers. CHI could add this to the paper requirements. Drivers for the research, underlying values, funding mechanisms and promises, and agendas of the researchers and collaborating parties could be explained here as well.

We also think that discussion, as happens in the alt.chi track, is a good instrument to deal with this matter. There might even be room for an Ethical Consortium, next to the Doctoral Consortium, where these topics can be discussed. We believe that at conferences like CHI, an annual uptake of this discussion or review of recent work related to ethics could benefit the HCI community as a whole. We consider this topic neverending, it will never be settled for once and for all.

Origin of this work

In the past year, we read the Games Against Health paper, saw the Uninvited Guest video, and learned about the Ethical Design Manifesto. These works made us reflect on our own practices, and by connecting the dots we felt that we, as the HCI community, sometimes 'design for others' with (unintended) side-effects, e.g. merely serving commercial goals for companies rather than putting the interest of end-users first. We felt that this topic is a good fit for the alt.chi track at CHI 2016, with the tagline CHI4Good.

This text is a personal point of view on practices within the HCI community, inspired by recent work. As the reviewers and alt.chi juror felt the text lacked references to a rich history of literature on ethics in HCI, these were added as well.

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